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| 09/533,741 | 03/23/2000 | Thomas M. D'Angelo | P-3009.2 | 1020 |

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| EXAMINER | |
|---|---|
| STAICOVICI, STEFAN | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1732 | 4 |

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/533,741 | THOMAS M. D'ANGELO | |
| | Examiner | Art Unit | |
| | Stefan Staicovici | 1732 | |

*-- The MAILING DATE of this communicati n appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3-6,11,12,14,15 and 17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,11,12,14-15 and 17-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Continued Prosecution Application*

1. The request filed on May 14, 2003 (Paper No. 12) for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/533,741 is acceptable and a CPA has been established. An action on the CPA follows.

### *Response to Amendment*

2. Applicant's amendment filed April 9, 2003 (Paper No.9) has been entered. Claim 1 has been amended. Claims 23-26 have been canceled. No new claims have been added. Claims 1, 3-6, 11-12, 14-15 and 17-22 are pending in the instant application.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-5, 14, 17-18 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maroschak (US Patent No. 3,859,025) in view of Lupke (US Patent No. 5,429,398).

Maroschak ('025) teaches the basic claimed process for continuously molding corrugated parts including, providing an extruded soft tube of thermoplastic material and a plurality of die blocks (31a, 31b) defining mold halves (32, 33), advancing said soft extruded tube zone in a

blow-molding machine (30) where said plurality of die blocks (31a, 31b) continuously form an intermediate corrugated portion (body) (intermediate convoluted segments) between non-corrugated portions (collar) (planar end segments), advances the thus shaped tube using a speed controller (40) (synchronizing the cutter action to the movement of the shaped column) (col. 4, lines 46-53) to a cutting station (60) to separate the molded parts having non-corrugated portions (collar) (planar end segments) adjacent an intermediate corrugated portion (body) (intermediate convoluted segments) (see col. 2, line 66 through col. 4, line 10 and Figure 2).

Regarding claim 1, Maroschak ('025) does not teach forming end segments having different geometries. Lupke ('398) teaches a process for continuously forming a ribbed tube (convoluted) including a ribbed portion (10) and end segments (112, 114) having a differing geometry by using a plurality of die blocks of differing geometries (52, 52a, 52b) (see Figure 9) in a continuous blow molding machine (50) (col. 5, lines 44-50). Therefore, it would have been obvious for one of ordinary skill in the art to have provided die blocks having differing geometries as taught by Lupke ('398) to form end segments of a differing geometry in the process of Maroschak ('025), because Lupke ('398) specifically teaches that such end segments reduce the complexity of the joining process of the resulting tubes, hence improving product quality and also because both references teach similar processes and end-products. Further regarding claim 1, although Maroschak ('025) in view of Lupke ('398) teach a process for continuously molding corrugated pipes (tubes), Maroschak ('025) in view of Lupke ('398) do not teach that said corrugated pipes (tubes) are for vehicle or industrial equipment. However, recitation of the intended use of the claimed process must result in a structural difference between the claimed process and the prior art in order to patentably distinguish the claimed

invention from the prior art. It should be noted that in a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. Therefore, the limitation that the resulting molded corrugated pipes (tubes) are used for a vehicle or industrial equipment or for any other use do not carry patentable weight unless the intended use results in a manipulative difference as compared to the prior art.

In regard to claim 4, Maroschak ('025) teaches the existence of vertical wall (83) which is removed during the cutting phase (a surface thereon between end segment surfaces thereon) in which a speed controller (40) is adapted to synchronize the movement of the resulting molded product with the delivery rate as it emerges from the molding zone (col. 4, lines 45-50 and col. 6, lines 55-65).

Specifically regarding claims 5 and 14, Lupke ('398) teaches that the geometry of die blocks (52) (52a) and (52b) forms the differing geometry (10), (112) and (114), hence forming an A-B-C pattern. Therefore, it would have been obvious for one of ordinary skill in the art to have provided die blocks having differing geometries as taught by Lupke ('398) to form a molded product having an A-B-C pattern in the process of Maroschak ('025), because Lupke ('398) specifically teaches that such end segments reduce the complexity of the joining process of the resulting tubes, hence improving product quality.

Regarding claims 17-18 and 21-22, Maroschak ('025) teaches the use of a moldable thermoplastic material (col. 3, line 1). It is submitted that a moldable material is a flexible material. Further, it is submitted that a thermoplastic material includes a thermoplastic polyolefin and a thermoplastic elastomer.

5. Claims 3, 6, 11-12, 15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maroschak (US Patent No. 3,859,025) in view of Lupke (US Patent No. 5,429,398) and in further view of Rosenbaum (US Patent No. 4,509, 911).

Maroschak ('025) in view of Lupke ('398) teaches the basic claimed process as described above.

Regarding claim 3, Maroschak ('025) in view of Lupke ('398) does not each that the end segments differ from part to part. Rosenbaum ('911) teaches a process for continuously forming a tube including, providing an extruded soft tube of plastic material and a plurality of die blocks (82, 84), advancing said soft extruded tube zone in a blow-molding machine (80) where said plurality of die blocks (82, 84) continuously form a tube having different geometries from part to part (A, B, C, D) (see col. 3, lines 1-2) and, cutting said formed tube. Further, it should be noted that Rosenbaum ('911) teaches that its teachings can be incorporated in a process that forms a coupling structure as an integral part of the tubing (col. 1, lines 15-20). Therefore, it would have been obvious for one of ordinary skill in the art to have formed end segments that differ from part to part as taught by Rosenbaum ('911) in the process of Maroschak ('025) in view of Lupke ('398) because, Rosenbaum ('911) specifically teaches that it can be incorporated in a process that forms a coupling structure as an integral part of the tubing as the process of Maroschak ('025) in view of Lupke ('398) and also because, process versatility improves by reducing the complexity of the joining process of the resulting tubes to a large geometrical variety of tubes. Further, it should be noted that all references teach similar materials and processes.

In regard to claims 6, 11-12 and 15, Maroschak ('025) teaches continuously molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B)_n$ pattern. Lupke ('398)

teaches continuously molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C)_n$ pattern. Rosenbaum ('911) teaches continuously molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C\text{-}D)_n$ pattern, in which A, B, C and D have different geometries (see col. 3, lines 1-2). Therefore, it is submitted that the art of record as a whole teaches a wide variety of differing geometries that can be continuously molded from an extruded plastic tube using a plurality of die blocks and as such it is submitted that Rosenbaum ('911) teaches molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C)_n$ and an $(A\text{-}B\text{-}C\text{-}C'\text{-}B\text{-}A)_n$ pattern. Therefore, it would have been obvious for one of ordinary skill in the art to have molded an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C)_n$ or an $(A\text{-}B\text{-}C\text{-}C'\text{-}B\text{-}A)_n$ pattern as taught by Rosenbaum ('911) in the process of Maroschak ('025) in view of Lupke ('398) because, Rosenbaum ('911) specifically teaches that it can be incorporated in a process that forms a coupling structure as an integral part of the tubing as the process of Maroschak ('025) in view of Lupke ('398) and also because, process versatility improves by reducing the complexity of the joining process of the resulting tubes to a large geometrical variety of tubes. Further, it should be noted that all references teach similar materials and processes.

Regarding claims 19 and 20, Maroschak ('025) teaches the use of a moldable thermoplastic material (col. 3, line 1). It is submitted that a moldable material is a flexible material. Further, it is submitted that a thermoplastic material includes a thermoplastic polyolefin and a thermoplastic elastomer.

6. Claims 1, 4-5, 14, 17-18 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maroschak (US Patent No. 3,859,025) in view of Lupke (US Patent No. 5,429,398) and in further view of Kato (US Patent No. 6,051,789).

Maroschak ('025) teaches the basic claimed process for continuously molding corrugated parts including, providing an extruded soft tube of thermoplastic material and a plurality of die blocks (31a, 31b) defining mold halves (32, 33), advancing said soft extruded tube zone in a blow-molding machine (30) where said plurality of die blocks (31a, 31b) continuously form an intermediate corrugated portion (body) (intermediate convoluted segments) between non-corrugated portions (collar) (planar end segments), advances the thus shaped tube using a speed controller (40) (synchronizing the cutter action to the movement of the shaped column) (col. 4, lines 46-53) to a cutting station (60) to separate the molded parts having non-corrugated portions (collar) (planar end segments) adjacent an intermediate corrugated portion (body) (intermediate convoluted segments) (see col. 2, line 66 through col. 4, line 10 and Figure 2).

Regarding claim 1, Maroschak ('025) does not teach forming end segments having different geometries. Lupke ('398) teaches a process for continuously forming a ribbed tube (convoluted) including a ribbed portion (10) and end segments (112, 114) having a differing geometry by using a plurality of die blocks of differing geometries (52, 52a, 52b) (see Figure 9) in a continuous blow molding machine (50) (col. 5, lines 44-50). Therefore, it would have been obvious for one of ordinary skill in the art to have provided die blocks having differing geometries as taught by Lupke ('398) to form end segments of a differing geometry in the process of Maroschak ('025), because Lupke ('398) specifically teaches that such end segments

reduce the complexity of the joining process of the resulting tubes, hence improving product quality and also because both references teach similar processes and end-products.

Further regarding claim 1, although Maroschak ('025) in view of Lupke ('398) teach a process for continuously molding corrugated pipes (tubes), Maroschak ('025) in view of Lupke ('398) do not teach a molded part (corrugated tube) for vehicle or industrial equipment. However, the use of corrugated pipes (tubes) in vehicles is well known as evidenced by Kato ('789). Specifically, Kato ('789) teaches the use of a corrugated plastic tube in a vehicle (see Abstract and, Figures 1 and 7). Therefore, it would have been obvious for one of ordinary skill in the art to have formed a molded part (corrugated tube) for a vehicle as taught by Kato ('789) using the process of Maroschak ('025) in view of Lupke ('398) because, Kato ('789) specifically teaches that it is well known to use corrugated plastic tubes in a vehicle, whereas Maroschak ('025) in view of Lupke ('398) teach a process for continuously molding corrugated pipes (tubes) and also because all references teach similar materials and processes resulting in a similar structure. Further, it should be noted that recitation of the intended use of the claimed process must result in a structural difference between the claimed process and the prior art in order to patentably distinguish the claimed invention from the prior art. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

In regard to claim 4, Maroschak ('025) teaches the existence of vertical wall (83) which is removed during the cutting phase (a surface thereon between end segment surfaces thereon) in which a speed controller (40) is adapted to synchronize the movement of the resulting molded product with the delivery rate as it emerges from the molding zone (col. 4, lines 45-50 and col. 6, lines 55-65).

Specifically regarding claims 5 and 14, Lupke ('398) teaches that the geometry of die blocks (52) (52a) and (52b) forms the differing geometry (10), (112) and (114), hence forming an A-B-C pattern. Therefore, it would have been obvious for one of ordinary skill in the art to have provided die blocks having differing geometries as taught by Lupke ('398) to form a molded product having an A-B-C pattern in the process of Maroschak ('025), because Lupke ('398) specifically teaches that such end segments reduce the complexity of the joining process of the resulting tubes, hence improving product quality.

Regarding claims 17-18 and 21-22, Maroschak ('025) teaches the use of a moldable thermoplastic material (col. 3, line 1). It is submitted that a moldable material is a flexible material. Further, it is submitted that a thermoplastic material includes a thermoplastic polyolefin and a thermoplastic elastomer.

7. Claims 3, 6, 11-12, 15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maroschak (US Patent No. 3,859,025) in view of Lupke (US Patent No. 5,429,398) and in further view of Kato (US Patent No. 6,051,789) and Rosenbaum (US Patent No. 4,509, 911).

Maroschak ('025) in view of Lupke ('398) and in further view of Kato ('789) teach the basic claimed process as described above.

Regarding claim 3, Maroschak ('025) in view of Lupke ('398) and in further view of Kato ('789) do not each that the end segments differ from part to part. Rosenbaum ('911) teaches a process for continuously forming a tube including, providing an extruded soft tube of plastic material and a plurality of die blocks (82, 84), advancing said soft extruded tube zone in a blow-molding machine (80) where said plurality of die blocks (82, 84) continuously form a tube

having different geometries from part to part (A, B, C, D) (see col. 3, lines 1-2) and, cutting said formed tube. Further, it should be noted that Rosenbaum ('911) teaches that its teachings can be incorporated in a process that forms a coupling structure as an integral part of the tubing (col. 1, lines 15-20). Therefore, it would have been obvious for one of ordinary skill in the art to have formed end segments that differ from part to part as taught by Rosenbaum ('911) in the process of Maroschak ('025) in view of Lupke ('398) and in further view of Kato ('789) because, Rosenbaum ('911) specifically teaches that it can be incorporated in a process that forms a coupling structure as an integral part of the tubing as the process of Maroschak ('025) in view of Lupke ('398) and in further view of Kato ('789) and also because, process versatility improves by reducing the complexity of the joining process of the resulting tubes to a large geometrical variety of tubes. Further, it should be noted that all references teach similar materials and processes.

In regard to claims 6, 11-12 and 15, Maroschak ('025) teaches continuously molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B)_n$ pattern. Lupke ('398) teaches continuously molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C)_n$ pattern. Rosenbaum ('911) teaches continuously molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C\text{-}D)_n$ pattern, in which A, B, C and D have different geometries (see col. 3, lines 1-2). Therefore, it is submitted that the art of record as a whole teaches a wide variety of differing geometries that can be continuously molded from an extruded plastic tube using a plurality of die blocks and as such it is submitted that Rosenbaum ('911) teaches molding an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C)_n$ and an $(A\text{-}B\text{-}C\text{-}C'\text{-}B\text{-}A)_n$ pattern. Therefore, it would have been obvious for one of

ordinary skill in the art to have molded an extruded plastic tube using a plurality of die blocks to result in an $(A\text{-}B\text{-}C)_n$ or an $(A\text{-}B\text{-}C\text{-}C'\text{-}B\text{-}A)_n$ pattern as taught by Rosenbaum ('911) in the process of Maroschak ('025) in view of Lupke ('398) and in further view of Kato ('789) because, Rosenbaum ('911) specifically teaches that it can be incorporated in a process that forms a coupling structure as an integral part of the tubing as the process of Maroschak ('025) in view of Lupke ('398) and in further view of Kato ('789) and also because, process versatility improves by reducing the complexity of the joining process of the resulting tubes to a large geometrical variety of tubes. Further, it should be noted that all references teach similar materials and processes.

Regarding claims 19 and 20, Maroschak ('025) teaches the use of a moldable thermoplastic material (col. 3, line 1). It is submitted that a moldable material is a flexible material. Further, it is submitted that a thermoplastic material includes a thermoplastic polyolefin and a thermoplastic elastomer. Further, Kato ('789) teaches the use of a thermoplastic polyolefin to form a corrugated tube (column 3, lines 14-16).

***Response to Arguments***

8. Applicant's arguments filed April 9, 2003 (Paper No.9) have been considered and fully responded in the Advisory Action mailed April 14, 2003 (Paper No. 10).

It should be noted that Applicant has not included any remarks with the request for a Continued Prosecution Application (CPA) filed on May 14, 2003 (Paper No. 12).

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (703) 305-0396. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM and alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino, can be reached at (703) 308-3853. The fax phone number for this Group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Stefan Staicovici, PhD

Stefan Staicovici 5/21/03

Primary Examiner

AU 1732

May 21, 2003